Available online at www.sciencedirect.com

ScienceDirect

Procedia Economics and Finance 8 (2014) 236 – 245

Procedia Economics and Finance

www.elsevier.com/locate/procedia

1st International Conference 'Economic Scientific Research - Theoretical, Empirical and Practical Approaches', ESPERA 2013

Long-term unemployment spells and exit states of men in Romania and Hungary

Daniela-Emanuela Dănăcică[a]*, Raluca Mazilescu[a]

[a]*Faculty of Economics and Business Administration, Constantin Brâncuşi University of Târgu-Jiu, Romania*
[b]*Institute of National Economy, Romanian Academy, Romania*

Abstract

This paper present first empirical analysis of long-term unemployment spells and exit states of Romanian and Hungarian men. We analyze the effect of various individual characteristics on men long-term unemployment spells and exit states using two micro-datasets obtained from National Agency of Employment Romania and from Institute of Economics, HungarianAcademy of Science. Cox proportional hazard model with three competing-risks is estimated for Romania; for Hungary with have a four competing-risks specification.

Keywords: long-term unemployment; men spells; hazard; exit states

1. Introduction

Long-term unemployment is a serious problem for developed and developing economies. Defined as individuals without a job for six moths/twelve months or more, long-term unemployment has dramatic consequences from economic, social and individual perspective. Beside the costs for social protection of long-term unemployed individuals that an economy has to bear, the depreciation of human capital will led to a decline in productivity and to

* Corresponding author. Tel.: +40253211162.
E-mail address: danadde@yahoo.com

doi:10.1016/S2212-5671(14)00086-0

the macroeconomic imbalances. Long-term unemployment negatively affects the household income (Nichols et. all, 2013) and the post-unemployment wages (Ruhm, 1991; Arulampan, 2001; Barnette and Michaud, 2012) of affected individuals. Due to the deterioration of individual's skills, the decline of getting a new job probability follows (Foley, 1997). Long-term unemployed individuals are most prone to withdrawal from the labor force (Nichols et. all, 2013).

There is an increasing literature focused on the impact of unemployment and especially long-term unemployment, on life satisfaction (Winkelmann and Winkelmann, 1995, 1998; Gerlach and Stephan, 1996) and on physical and mental health of affected individuals (Lewis and Sloggett; 1998, Burgard, et. all, 2007;Sullivan and von Wachter, 2009). A high frequency of major depressive episodes in long-term unemployed individuals, compared with those in short-term unemployment or those who have left unemployment by being employed was found by Stankunaset all. (2006). Milner et. all (2013) show that longer unemployment duration is related to greater risk of suicide and suicide attempt. Therefore, the importance of a study focused exclusively on long-term unemployment is obvious.

According to Ruberyet all. (1996) and Wadsworth (1991), men and women have different social roles and behave differently on the labor market. Although mentalities have evolved, in many society men are still defined by "what they do". Thus, long-term unemployment appears to have a stronger impact on men life and personality than women. Kulik (2000)showed that unemployed Israeli men are much more stigmatized than women for their unemployed status, and spend more time looking for a job. According to Rothstein (2013), in the first years after a long-term unemployment experience, men wages might be lower than it was before; if the men can build up their skills and knowledge at the new workplace, their wages may increase again over time. But if men experience again long periods of unemployment, their wages may not recover over time. In another study Mursulaet all. (2013) showed that men unemployed for more than 2 years in their last 3 years of life were more than twice likely to have an accelerate ageing process compared with men who were continuously employed. This pattern was not observed in women. However, the authors underline that fewer long-term unemployed women than men were observed within this study and this can be one of the reasons why women appear to be less affected by long-term unemployment.

Because of the above presented findings and because of the fact that there are still households where men are the only worker and thus dramatically affected by his long-term unemployment, we decided to focus on men long-term unemployment spells and exit states in two post communist countries: Romania and Hungary. We can find in the literature papers focused on long-term unemployment in these two countries, as follows: Earle and Păuna (1998) analyzed the growth of long-term unemployment, non-employment and labor force withdrawal in Romania. Fecioru (2008) presented the importance of active measures to combat youth long-term unemployment in Romania. Ghinararu (2012) underlines that long-term unemployment level is not high in Romania, but most affected are young individuals and older workers. For the young individuals entering on the labourmarket is challenging; for older workers is difficult to sustain employment. Usually, if unemployment appears at this age group, there is a one way exit, in inactivity via invalidity pensions. Dănăcică and Mazilescu (2012) proved in their study that gender, age, education, region of living, rural/urban area of living, the existence of work experience and marital status have a significant effect on long-term unemployment spells in Romania. Apostolache and Apostolache (2009) underlined the importance of active measures for improving employment and to combat social exclusion for the European political construction. Fekete (2005) analyzed long-term unemployment and the composition of the long-term unemployed individuals in Hungary. The analysis long-term unemployment in Hungary is also the aim of Lazar (2010) and Zagyi (2010) papers. Bardasi, Lasaosa, Micklewright and Nagy (1999) analyzed the long-term unemployment and benefit coverage in Hungary. Our aim was to focus on men long-term unemployment spells registered in Romania and Hungary and to analyze the effect of different variables which cause some men to experience longer unemployment spells and different exit destinations when spells are deactivated than others.

2. Data, variables and descriptive statistics

Long-term unemployment in this paper is defined as registered unemployment for six months or more. Two large datasets were used for the empirical analysis, with 766991 completed long-term spells for Romanian men and 47791 completed spells for Hungarian men. National Agency for Employment provided as the Romanian dataset; the data

set contains all the spells of long-unemployed men registered in between January 1st 2008 and December 31st 2010. Each spell contain information about start and end date of the registered spell, exit destinations, age of the unemployed, education, county of living, urban or rural area of living, marital status, if the individual get unemployment allowance during his/her current spell, if he/she has work experience and if he/she has a disability or not. Hungarian dataset represents half of the long-term men spells with unemployment allowance registered at the Hungarian Employment Office in between 1st January 2004 and 31 December 2008 and who have their end date during 1st January 2006- 31st December 2008. There were no recent available data when we started the empirical study for Hungary. The empirical analysis for Hungary was carried out only for the UI spells because the record for non-UI spells did not have mentioned the exit reason, exit destinations and because these spells are very unreliable and not used for research. For each completed spell we received information about start and end date, exit destinations, unemployed date of birth, education and region of living.

All the spells without an exit destination, with age of individuals lower than 15 years (16 years for Hungary) and higher than 65 years were removed. For the Romanian dataset, in order to diminish the multiple spells for the same subject problem and the intra-person correlation we censored all the spells with an unclear exit states. Regarding the Hungarian dataset, we did not have multiple spells for the same subject due to the initial filter of the data.

Duration of a registered unemployment spell, the endogenous variable of our study for both countries was computed as a difference between first and last day of registered unemployment and is measured in days. The minimum duration of unemployment for the Romanian men is 180 days and the range is 1028 days, with a mean of 337.34 days, a median of 303 days and a mode of 184 days; the skewness is 1.575 and the kurtosis is 4.605. 62.8% from the total analyzed spells have duration of unemployment in between six months and year, 34.7% have duration in between one year and two years and 2.5% from the spells have duration of more than two years. For the Hungarian dataset we have a minimum duration of 180 days, a range of 1499 days, mean is 320.68 days, median is 369 days and mode 360 days; the skewness is 3.270 and the kurtosis is 18.433. 81.5% of the total analyzed spells for Hungary have duration of unemployment in between six month and one year, 16.95 have a length ranging from one to two years and 1.6% spells are lasting more than two years. For both countries we can notice that most of the long-term unemployed men are those with spells that last less than one year. Long-term unemployment of men appears to be stronger in Romania than in Hungary.

In both datasets, an unemployment spell ends when the individual is deactivated from the register of unemployed. We received information about the deactivation reasons for each spell. Due to this information we could know the exit destinations of unemployed men. We had 24 different reasons for deactivation for the Romanian dataset and 11 for the Hungarian dataset. Therefore, we further examined the unemployment the unemployment spells taking account of different exit destinations. We divided the exit destinations in three groups for the Romanian dataset, (re)employment[†], ending of the legal time period during which one can be granted unemployment allowance and non-participation on the Romanian labor market. All the spells with an unclear exit state (e.g. "4- request to be registered without unemployment allowance", "9-accepted file with unemployment allowance", "51–doesn't cooperate") are censored. For the Hungarian dataset we divided the exit destinations in four main categories: (re)employment, exit due to active labor market programs, exit due to expiry of the eligibility of unemployment allowance and exit in non-participation. All the spells without an exit destination or with the exit state 40015 "other", 40017 "doesn't co-operate" and 40018 "deleted from the registration" are right censored due to the lack of more accurate information about what happens with these individuals.

The distribution of long-term men spells by their duration and exit states for both analyzed countries is presented in table 1. We can notice a significant negative association between unemployment duration and exit in (re)employment for Hungary, and at a lower intensity for Romania too. Only 0.5% of the more than 2 years men spells end in (re)employment in Hungary and 7.8% in Romania. We can also notice that with the increase of the

[†]We used the (re)employment term due to the fact that we have young men fresh graduates at their first experience on the labor market. The rest of individuals who found a job are reemployed

unemployment duration, the participation in active labor market programs of Hungarian unemployed men dramatically decrease. Most of the spells with more than 2 years duration end in non-participation or are censored.

Table 1: Distribution of long-term spells of men (days) in Romania and Hungary, by their duration and exit destinations

Exit destinations	Unemployment duration								
	6 months - 1 years			1 years-2 years			More than 2 years		
	%	Mean	Median	%	Mean	Median	%	Mean	Median
					Romania				
Employment	16,4	294,03	311,00	24.2	446,28	439,00	7,8	866,40	844,00
Expiry of legal UI	31,3	286,32	271,00	47,6	443,97	439,00	7,7	811,25	803,00
Inactivity	1,7	309,82	338,00	5,3	450,66	441,00	1,0	814,70	807,00
Censored	50,5	211,71	184,00	22,9	488,82	455,00	83,4	900,58	879,00
Total	100	250,28	248,00	100	455,14	440,00	100	890,13	860,00
					Hungary				
Employment	32,4	251,15	244,00	10,9	418,88	411,00	,5	958,50	1005,00
ALMP	2,2	254,87	249,00	,7	432,18	421,00	-	-	-
Expiry of legal UI	58,0	302,64	309,00	75,2	435,80	449,00	3,2	957,84	940,00
Inactivity	1,2	264,03	258,50	5,1	511,58	493,00	38,6	992,46	988,50
Censored	6,2	264,39	261,00	8,2	500,69	476,00	57,7	976,01	960,00
Total	100	282,07	277,00	100,0	443,10	449,00	100,0	981,69	967,50

The explanatory *age* has value in between [15-65 years] for Romanian dataset and was analyzed distinctively by five intervals, as follows: [15-24], [25-34], [35-44], [45-54], [55-65]. 39.4% from the analyzed spells belong to individuals aged in between 15 years and 34 years. Mean unemployment duration until (re)employment is 274.34 days for individuals aged in between 15 and 24 years, 316.73 days for individuals aged in between 25-34 years, 389.22 days for those aged in between 35 and 44 years, 404.60 days for 45-54 years group and 403.23 days for 55-65 group. Thus, we can notice a positive association between age and unemployment length until (re)employment of Romanian men.For the Hungarian dataset the *age*was extracted from the year of birth and its values are in between 19 and 64 years; age was divided in the econometric analysis in five intervals, as follows: [19-24], [25-34], [35-44], [45-54], [55-64]. 37.9% from the analyzed spells belong to individuals aged in between 19 years and 34 years. For both countries the number of young men registered in long-term unemployment is concerning. Mean unemployment duration until (re)employment is 250.46days for individuals aged in between 15 and 24 years, 252.40 days for individuals aged in between 25-34 years, 255.66 days for those aged in between 35 and 44 years, 278.55 days for 45-54 years group and 281.39 days for 55-64 group. Again, we notice a positive association between age and unemployment duration of men in Hungary.

The *education* was received as a qualitative variable for both datasets, with the following categories: for Romania-without education, incomplete gymnasium, gymnasium, apprenticeship complementary education, professional school, theoretical high-school, vocational high-school, special education (for people with disability, compatible with theoretical high-school in numbers of study years), foremen school, post-high-school, college, university and unknown level of education; for Hungary-less than eight years of education, completed primary school (8 years of education), special vocational school, vocational school, general secondary school, vocational secondary school, technical school, college and university. In both datasets, we have a large number of the long-term unemployment spells of poor educated men. The lowest mean unemployment duration until (re)employment in

Romania is registered for men with a higher-education; for the Hungarian men, the differences between mean unemployment duration until (re)employment registered for each educational group are small.

In the original dataset for Romania we have information about county of living for each individual. Since we could not work with all 44 counties plus Bucharest, we used in the econometrical analysis *region* as an explanatory variable. We had the following categories: Romania - North-East region, West region, North-West region, Central region, South-East region, South-Muntenia region, Bucharest-Ilfov and South-West Oltenia region; Hungary - Budapest, Northern Hungary, Northern Great Plain, Southern Great Plain, Central Hungary, Central Transdanubia, Western Transdanubia and Southern Transdanubia. For Romania dataset the frequency of long-term unemployment spells by region is almost the same, except West region, with 8.9% and Bucharest-Ilfov region with only 4.2%. These two regions are most developed and have the lowest rate of long-term unemployment. The lowest frequency of long-term unemployment is registered for Hungarian men living in Central-Transdanubia. These regions have also the lowest unemployment duration until (re)employment.

For the Romanian men registered in unemployment for six month or more we had also information regarding the *urban/rural are of living*, *unemployment allowance during current spell*, *previous work experience, marital status* and *health status*. Due to small number of spells for different categories of marital status, for non-UI spells and for individuals with a disability these variables were not included in the econometric analysis. The other above mentioned variables were introduced in the analysis as dummy variables (0-rural area, 1 urban area; 0-if the individuals doesn't receive unemployment indemnity during his/her current spell, 1- if he/she receive it UI; 0-without work experience, 1- with work experience; 0-without disability, 1-with a disability). 68.5% of the total analyzed spells are rural spells, and 31.5% are urban. 80.7% from the total unemployment spells with duration for more than 2 years are rural spells. 23.39% from analyzed urban spells ended in (re)employment, compared with only 15.38% rural spells deactivate due to (re)employment. 57.2% from the analyzed spells belong to individuals with previous work experience and 42.8% are spells without previous work experience. 84.2% from the total spells deactivated due to (re)employment belong to individuals with previous work experience.

3. Empirical analysis

Cox proportional hazard model in a competing-risks framework was used to estimate the effect of the above presented explanatory on unemployment duration and exit destinations. Due to the lack of space we did not present the methodology of this model. However, detailed explanations for Cox proportional hazard model can be found in Collett (2003), Le (1997), Greene (2003) and Klein and Moeschberger (2005).

In the competing-risks analysis we have three types of unemployment duration for Romania and four for Hungary: a) Romania -time until exit to (re)employment, time until exit due to expiry of the legal period for UI and time until exit to non-participation; b) Hungary – time until exit to (re)employment, time until deactivation due to involvement in ALMP, time until deactivation because expiry of the legal period for UI and time until exit in non-participation. Out of all 766991 long-term unemployment spells registered in Romania in the analyzed period, only 18.9% ended in (re)employment. For Hungary the percent is 27%.

The estimated effect of the explanatory variables on the hazard function is presented in table 2 for Romania and table 3 for Hungary, from appendix. For the Romanian dataset reference is the last category for age, region, urban or rural area and work experience and the first category for education*;* for the Hungarian dataset reference is the first category for education and the last for age and region of living.

Analyzing the results presented in table 2 and 3 from the Appendix we can notice that *age* is a highly significant variable influencing long-term unemployment spells, (re)employment probability and the other exit states. For both countries *age* has positive coefficients, that meansan increase of the exit to a job hazard, compared to the reference category. For both countries, as younger an individual is, as higher is her/his exit to a job chances. Long-term unemployed men aged in between 15 and 24 years for Romania and 16-24 years for Hungary have more than 5 times (Romania) and 2 times (Hungary) higher chance to exit to a job than long-term unemployment men with more than 55 years old. Young Hungarian men aged in between 15 and 24 years have the highest exit in ALMP probability too and they are the most attached group to the labor market. Long-term unemployment men with more

than 55 years old from both countries are most prone to exit in non-participation. *Education* is another variable with a highly significant effect for (re)employment probability in both countries. All the regression coefficients are positive when the event is (re)employment, for both datasets. For Romania, long-term unemployed men with a higher education have the highest probability to exit to a job, compared with the reference category. We can notice that with the increase of education increase also the probability to exit in (re)employment of unemployed men. This finding is interesting since for short and medium term unemployment no statistical difference between unemployed with a higher education and those with vocational school education was found. Thus for the long-term unemployment having a higher education gives better chances to exit to a job than other education form. For Hungary, beside the difference between each education group and the reference category, if we are looking at the confidence interval we can notice that the only significant difference from statistical point of view regarding exit to a job chance is the one between unemployed men who completed primary school and those who graduate short-term university education (college). Poor educated men are in the worst position on labor market in both countries. There is no significant effect of education for exit from unemployment due to involvement in active labor market program or exit in non-participation.

Region is a variable with a significant effect on (re)employment probability for Romanian long-term unemployed men. However, only the difference between (re)employment hazard of each region and the (re)employment hazard of men from South-West region is significant from statistical point of view; if we examine the confidence intervals of *Exp(B)* for each region we conclude that we have not significant differences regarding exit to a job chance between the other 7 regions. For Hungarian dataset, region is significant only for the differences between Budapest, Southern Great Plain, Western Transdanubia and the reference category, the Southern Transdanubia, when the event is (re)employment. Lon-term unemployed men living in rural areas of Romania are in the worst position on the labor market; their exit to a job chance is 11.7% lower than those living in urban areas. However, the rural-urban gap is lower for long-term unemployment than for short or medium term of unemployment (Dănăcică, 2013). Long-term unemployment men living in rural areas have a high chance to exit due to expiry of the legal period for UI than those living in urban areas. Long-term unemployment men without previous work experience have 64.2% lower exit to a job chance than those with a previous work experience. The gap is more pronounced than it was registered for the short and medium term of unemployment.

Conclusions

Men long-term unemployed spells and their exit destinations were analyzed within this paper for two post-communist countries with many similarities in terms of unemployment. Our empirical analysis shows that especially for Hungary, with the increase of the unemployment duration the (re)employment probability of unemployed men decrease. Only 7.8% from the unemployment spells with duration higher than 2 years ended in (re)employment; for Hungary the percent is significantly lower, only 0.5% of more than 2 years long spells ended in (re)employment. With the increase of the unemployment duration decrease the involvement in active labor market programs too. In both countries the most affected young men and older men. Age and education have a highly significant effect on unemployment duration and (re)employment probability in both countries. With the age increase decrease the probability of (re)employment and the probability of exit in ALMP too. Long-term unemployed men with an age higher than 44 years are vulnerable. Their vulnerability is augmented by a poor education, rural area of living and if they did not have work experience on the labor market before unemployment. We did not have information about rural or urban area of living for Hungarian unemployed men, but based on the findings for the Romanian dataset we think that policy makers from both analyzed countries need to focus on increasing the education level for men living in rural isolated areas. Another interesting finding of our study is that the lack of work experience has a stronger effect on unemployment duration and (re)employment probability for long-term unemployment than short or medium term of unemployment.

Acknowledgements

The empirical analysis for Hungary was carried out during a postdoctoral research stage at Corvinus University of Budapest, Faculty of Economics, Department of Human Resources. For Hungary, the administrative dataset of unemployment benefit recipients was created by the Institute of Economics, Research Centre for Economic and Regional Studies, Hungarian Academy of Sciences from the original data provided by the National Employment Service, Budapest, Hungary. Although the IE RCERS HAS made effort to clean the data, it cannot be held liable for any remaining error.

Appendix A. Results of the Cox model in a competing-risks framework, Romanian dataset

Variables	*Exit destinations*								
	(Re)Employment			*Expiry of legal period for UI*			*Non-participation*		
	β	*Exp(β)*	*Sig*	*β*	*Exp(β)*	*Sig*	*β*	*Exp(β)*	*Sig*
				Age					
15-24	1,614	5,021	.000	2,240	9,396	.000	,092	1,096	,000
25-34	1,239	3,451	.000	1,141	3,130	.000	-1,019	,361	,003
35-44	,564	1,758	.000	,279	1,322	.000	-1,986	,137	,000
45-54	,320	1,377	.000	,099	1,104	.000	-1,415	,243	,000
55-64				Reference category					
				Education					
Less than 8 years of study				Reference category					
Gymnasium	,888	2,429	.000	,737	2,090	.000	,448	1,565	,000
Apprenticeshipeducation	1,027	2,793	.000	,833	2,301	.000	,568	1,765	,000
Vocational sch.	1,068	2,910	.000	,765	2,149	.000	,558	1,746	,000
High-school	1,120	3,066	.000	,985	2,679	.000	,599	1,820	,000
Special educ.	1,251	3,493	.000	1,188	3,281	.000	,765	2,149	,000
Foremen sch.	1,055	2,872	.000	,612	1,845	.000	1,026	2,791	,000
Post-high-sch.	1,171	3,225	.000	,892	2,441	.000	,685	1,983	,000
College	1,429	4,174	.000	,951	2,588	.000	,549	1,731	,000
University	1,478	4,383	.000	1,095	2,989	.000	,659	1,934	,011
Unknown education	,797	2,219	.000	,892	2,439	.000	,083	1,087	,000
North-East	,239	1,270	.000	,060	1,062	,000	,006	1,006	,812
West	,217	1,242	.000	-,002	,998	,777	,159	1,172	,000
North-West	,248	1,282	.000	-,006	,994	,452	-,090	,914	,001
Central	,209	1,232	.000	-,115	,891	,000	-,043	,958	,088
South- East	,236	1,266	.000	-,033	,968	,000	-,144	,866	,000
S. Muntenia	,131	1,140	.000	,003	1,003	,714	-,080	,923	,002
Buch.- Ilfov	,363	1,438	.000	-,173	,842	,000	-,052	,949	,117
South-Oltenia				Reference category					
				Urban/Rural area of living					
Rural	-,124	,883	.000	,025	1,025	0.000	-,192	,825	.000

Urban	Reference category								
	Previous work experience								
Without experience	-1,028	,358	.000	-1,942	,143	0.000	-2,263	,104	.000
With experience	Reference category								

Appendix B. Results of the Cox model in a competing-risks framework, Hungarian dataset

Variables	Exit destinations											
	(Re)Employment			ALMP			*Expiry of legal period for UI*			Non-participation		
	β	*Exp* (β)	*Sig*	β	*Exp* (β)	*Sig*	β	*Exp* (β)	*Sig*	β	*Exp* (β)	*Sig*
	Age at the registration time											
16-24 years	1,087	2,964	.000	1,044	2,840	.000	2,535	12,62	.000	-4,533	,011	.000
25-34 years	1,027	2,793	.000	,686	1,985	.000	2,245	9,437	.000	-5,367	,005	.000
35-44 years	,956	2,602	.000	,805	2,238	.000	2,157	8,641	.000	-3,924	,020	.000
45-54 years	,808	2,242	.000	,842	2,321	.000	1,354	3,87	.000	-2,770	,063	.000
55-64 years	Reference category											
	Education at the registration time											
<8 years study	Reference category											
Completed primary sch.	,329	1,389	,002	,489	1,630	,240	,121	1,128	,577	-,014	,986	,025
Special vocational school	,372	1,451	,012	,628	1,873	,278	,114	1,121	,039	,541	1,718	,941
Vocational school	,470	1,599	,000	,316	1,372	,443	,120	1,127	,213	,119	1,126	,370
General secondary school	,345	1,413	,001	,906	2,474	,033	,113	1,119	,038	,099	1,104	,507
Vocational secondary school	,479	1,615	,000	,903	2,466	,031	,136	1,146	,069	,241	1,273	,639
Technical school	,481	1,618	,000	,960	2,613	,025	,087	1,091	,023	,347	1,415	,252
College	,565	1,759	,000	1,301	3,672	,002	,115	1,122	,173	,403	1,497	,076
University	,465	1,591	,000	1,257	3,516	,005	,109	1,115	,080	,252	1,287	,065
	Region of living											
Budapest	,056	1,057	,000	-,176	,839	,274	,101	1,106	,000	,393	1,481	,006
Northern Hungary	-,008	,992	,155	,190	1,209	,171	,033	1,034	,152	,058	1,060	,703
Northern Great Plain	,118	1,125	,826	-,118	,889	,448	,136	1,146	,000	,234	1,263	,213
Southern Great	,049	1,050	,001	,252	1,287	,070	,005	1,005	,844	,368	1,445	,009

Plain												
Central Hungary	,041	1,042	,165	,359	1,431	,014	,249	1,282	,000	,668	1,950	,000
Central Transdanubia	,306	1,358	,290	,205	1,228	,165	,037	1,037	,145	,680	1,974	,000
Western Transdanubia	,291	1,337	,000	,572	1,773	,000	,018	1,018	,511	1,250	3,490	,000
Southern Transdanubia	Reference category											

References

Apostolache, A.M., Apostlache, M.C.2009. *European Citizenship, the Capital Problem of the European Political Construction*, învolumul The XXIII MicroCAD International Scientific Conference, University of Miskolc, Hungary, 19-20 March 2009, pp.1-4.

Arulampalam, W. 2001.*Is Unemployment Really Scarring? Effects of Unemployment Experiences on Wages,* The Economic Journal, 111, pp. 585-606.

Bardasi, Lasaosa, Micklewright and Nagy .1999.*Measuring the Generosity of Unemployment Benefit Systems: Evidence from Hungary and Elsewhere in Central Europe,* Available at: http://www.econ.core.hu/doc/bwp/bwp/bwp998.pdf.

Barnette, J., A. Michaud. 2012., *Wage Scars from Job Loss* Working paper, Akron, OH, University of Akron, available at http://www.uakron.edu/dotAsset/2264615.pdf.

Burgard, S. A., J. E. Brand, and J. S. House (2007), *Toward a Better Estimation of the Effect of Job Loss on Health*, Journal of Health and Social Behavior48(4), pp. 369–384.

Collett, D. 2003.*Modeling Survival Data in Medical Research,* 2nd edition, Taylor & Francis.

Dănăcică and Mazilescu (2012), *Characteristics of Long-Term Unemployment Spells in Romania,* Annals of ConstantinBrâncuşi, Economics Serie, 4, pp. 122-129.

Dănăcică D.2013. *CercetăriprivindDurataŞomajuluişiProbabilitatea (Re)Angajării,*EdituraAcademieiRomâne, Bucureşti.

Earle, J.S., C. Păuna.1998. *Long-term unemployment, social assistance and labor market policies in Romania,* Empirical Economics, 23 (1-2), pp. 203-235.

Fecioru, B. 2008.*Măsuri de Îmbunătăţire a ŞanselorTinerilorpePiaţaMuncii,* RevistaCalitateaVieţii, 3(4), pp. 1-11.

Fekete E.G.2005. *Long-term Unemployment and Its Alleviation in Rural Areas,* DISCUSSION PAPERS No. 47, Available at: http://discussionpapers.rkk.hu/index.php/DP/article/view/2229/4152.

Foley M.C. 1997. *Determinants of Unemployment Duration in Russia*, The William Davidson Institute, University of Michigan Business School, Working Paper, no.81.

Ghinararu, C. 2012. *EEO Review: Long-term unemployment,* Available at: http://www.eu-employment-observatory.net/resources/reviews/Romania-LTU-July2012.pdf.

Gerlach, K., G. Stephan (1996), *A paper on unhappiness and unemployment in Germany*. Economics Letters, 52(3), pp. 325-330.

Greene, W. H. 2003. *Econometric Analysis.* New York: Prentice-Hall.

Klein, J. P., & M. L. Moeschberger.2005.*Survival Analysis: Techniques for Censoredand Truncated Data*, New York: Springer Verlag.

Kulik, L. 2000. *Jobless Men and Women: A Comparative Analysis of Job Search Intensity, Attitudes toward Unemployment, and Related Responses*, Journal of Occupational and Organizational Psychology, Vol. 73, pp. 487-500.

Lazar, G. 2010. *Long-term unemployment in Hungary,* Available at: http://www.mobilitypartnership.eu/WebApp/Events.aspx?EventID=5.

Le, C.T. (1997), *Applied Survival Analysis,* John Wiley & Sons, New York.

Lewis G. and Sloggett A. 1998.,*Suicide, Deprivation, and Unemployment: RecordLinkage Study*, British Medical Journal, 317, pp.1283-1286.

Milner, A.2013. Social-Environmental Factors and Suicide Mortality: A Narrative Review of over 200 Articles, Sociology Mind, Vol.3, No.2, pp.137-148.

Mursula L., A. et all.2013. *Long-term unemployment is associated with short telomeres in 31-year-old men: an observational study in the Northern Finland Birth Cohort 1966*, PLOS ONE.

Nichols, A., J. Mitchell, S. Lindner (2013), *Consequences of Long-Term Unemployment, Available* at: http://www.urban.org/publications/412887.html.

Rothstein, D. S. 2013. *Long-term unemployment over men's careers,* Available at: http://www.bls.gov/opub/btn/volume-2/pdf/long-term-unemployment-over-mens-careers.pdf.

Rubery, J. 2008.*Women and Work in the UK: the Need for a Modernisation of Labour Market Institutions*, *Women and Employment, Changing Lives and New Challenges*, Cheltenham: Edward Elgar.

Ruhm, C. J. 1991. *Are workers permanently scarred by job displacements?* The American Economic Review, 81(1), pp. 319–324.

Stankunas, M., Kalediene, R., Starkuviene, S., Kapustinskiene, V. 2006.*Duration of unemployment and depression: A cross-sectional survey in Lithuania*, BMC Public Health, Vol.6, pp. 174-180.

Sullivan, D., Till von Wachter.2009, *Job Displacement and Mortality: An Analysis Using Administrative Data*, Quarterly Journal of Economics124(3), pp. 1265–1306.

Zagyi, E.H. 2010.*The problems of long-term unemployment in Hungary based on the everyday work of a regional office,* Available at: http://www.mobilitypartnership.eu/WebApp/Events.aspx?EventID=5.

Winkelmann, L., R. Winkelmann.1998. *Why Are the Unemployed So Unhappy? Evidence from Panel Data*, Economica65(257), pp. 1–15.